Transitioning to Compliance Protocols

(AB 32 Quantification Methodologies)

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Webcast Questions
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Workshop Materials
http://www.arb.ca.gov/cc/protocols/protocols.htm

Agenda

- Overview of Compliance Offset Program
- Overview of Protocol Transition Process
- Ozone Depleting Substances, Livestock, Urban Forestry
- Forestry

General Requirements for Offsets

- Reductions from offsets need to meet all AB 32 mandated criteria (real, additional, quantifiable, permanent, verifiable and enforceable)
- Subject to a quantitative usage limit
- Must meet regulatory verification and enforcement requirements

Current Process for ARB Protocol Development

- ARB is in the process of developing offset protocols that could be used for compliance
- Protocols include:
  - Forestry
  - Manure management digesters
  - Urban forests
  - Ozone depleting substances

ARB Protocols

- Board would approve protocols
- Approved protocols would consist of standardized methods for estimating project baselines and determining additionality
- Activity baselines and additionality would be based on the principle of conservativeness and defined business-as-usual
- Project boundaries would be established, as well as the reductions or removals that are calculated within that boundary and for how long they are allowed to be credited (crediting periods)

Regulatory Requirements for Protocols

- AB 32 exempts protocols from rulemaking provisions of the Administrative Procedures Act
- Verification and enforcement must be regulatory
- All protocol related form information must be in regulation

Current Staff Thinking: Additionality

- No strict financial additionality test required due to performance-standard approach
- Evaluating requirements for regulatory additionality benchmarking
- ARB working definition for additional:
  - "GHG emission reductions or removals that exceed any GHG reductions or removals otherwise required by law or regulation, or any GHG reductions or removals that would otherwise occur in a conservative business-as-usual scenario"

Defining Conservative

- ARB working definition of conservative:
  - "Utilizing activity baseline assumptions, emission factors, and methodologies that are more likely than not to understate net GHG reductions or removals for an offset project to address uncertainties affecting the calculation or measurement of GHG reductions or removals"
  - E.g. ARB staff may need to set emission factors using a principle of conservativeness to account for leakage to outside the project boundary

Defining Business-as-Usual (BAU)

- ARB working definition of BAU for offsets:
  - "BAU scenario means the set of conditions reasonably expected to occur within the offset project boundary in the absence of the financial incentives provided by offset credits, taking into account all current laws and regulations, as well as current economic and technological trends"
    - Includes voluntary agreements with regulatory agencies, e.g. CEQA mitigation
    - Includes planned equipment replacements

Defining Activity Baseline

- ARB working definition of activity baseline:
  - "the scenario that reflects a conservative estimate of business-as-usual GHG emissions or removals within the offset project boundary for the relevant type of activity or practice"

Defining Offset Boundary

- ARB working definition of offset project boundary:
  - "defined by and includes all GHG emission sources, sinks or reservoirs that are affected by an offset project and under operational control of the offset project operator. GHG sources, sinks or reservoirs not under operational control of the offset project operator are not included in the offset project boundary"
  - Only direct emission reductions or removals that occur within the offset project boundary will be credited with an offset

Staff Thinking: Crediting Periods and Renewals

- Range for crediting period length specified in regulation, actual length established within that range in the ARB-approved protocol
- Non-sequestration projects
  - 5-10 years with the possibility for 1 renewal period
- Sequestration-based projects
  - 10-30 years with unlimited renewal possibilities as long as project meets program criteria

Staff Thinking: Eligibility Date/ Start Date

- Offset projects going through the ARB process would need to have commenced after 12/31/2006
  - In the case of linkage, the eligibility/start date may differ from this, depending on evaluation of the individual program

Staff Thinking: Ensuring Permanence

- ARB is still working on definition of permanence
- Ensuring permanence requires either:
  1. that reductions or removals are not reversible or
  2. when reductions or removals may be reversible
     - mechanisms are in place to replace any reversed carbon
     - must ensure credited reductions endure for a period comparable to the atmospheric lifetime of anthropogenic CO_2 emissions
- *Illustration*
  - Offsets allow 1 ton of CO_2 emissions from capped sources for each ton sequestered
  - If sequestered ton is released while the emitted ton is still in the atmosphere, net increase in emissions

Staff Thinking: Enforcement and Liability for Offset Credits

- ARB may take enforcement action against third-party verifiers, offset project developers, and offset users
- Offsets determined to be ineligible after issuance or acceptance would result in revocation of the credit for compliance use
- In the case of a reversal, covered entities that surrender offsets later deemed ineligible are responsible for replacing the lost tons (medium-term reversal mechanism)
  - In addition, could establish a buffer pool to be used as a long-term reversal mechanism and combined with buyer liability

Questions?

Overview of Protocol Transition Process

Introduction

- February, 2010, Board directed staff to transition to a compliance offset system
- Board rescinded previously adopted Livestock, Forestry, and Urban Forestry Protocols
- Initial compliance package includes previously board adopted protocols and Ozone Depleting Substances protocol

Purpose for Transition

- Regulatory Program Needs
  - Certainty
  - Enforceability
- Climate Action Reserve
  - Sound accounting
  - Allows for flexibility

Transition Process

- Today's workshop
- Informal written comment period
- Release of detailed changes
- Release of Proposed Protocols
- Fall, 2010 – Board Consideration

Regulatory Requirements Proposed Cap & Trade Rule

- Rule includes key offset parameters and definitions
  - Crediting periods, start dates, renewal criteria, additionality tests, etc.
- Align with Cap and Trade Rule

Regulatory Verification Requirements

- No issuance before verification
- Expand existing regulatory verification requirements
- Only ARB recognized verification bodies
- Strict conflict of interest requirements

Environmental Review

- CEQA Review
- Tiered CEQA analysis of proposed Cap and Trade program
- CEQA review included in the 45-day package for the proposed Cap and Trade Regulation

General Changes

- Extract quantification methods
  - Contain rigorous accounting
- Alignment of project start eligibility dates and crediting periods in the protocols with those in the proposed Cap and Trade Regulation
- Alignment of terms and definitions with offset criteria in Cap and Trade Regulation
- Updates to emission factors

Questions

Protocol Specific Changes

Ozone Depleting Substances(ODS) Project Description

- Destruction of ODS sourced from and destroyed within the U.S.
  - Refrigerants and foam blowing agents
- Destruction is not required
  - Reclamation and recycling is baseline for refrigerants
  - Landfilling is baseline for foams

ODS covered by Protocol

- Eligible ODS:
  - Refrigerants: CFC-11, CFC-12, CFC-114, & CFC115
  - Foams blowing agents: CFC-11, CFC-12, HCFC-141b, & HCFC-22
- Phase-out of production and importation:
  - All CFCs phased-out: 1/1/1996
  - HCFC-141b phased-out: 1/1/2004
  - HCFC-22 phased-out for non-refrigeration purposes: 1/1/2010
  - All can be recycled and reused

Crediting

- Point of crediting - Incineration Facility
- Conservative assumptions for quantification

Proposed Changes

- Limit incineration facilities to Resource Conservation and Recovery Act (RCRA)
- 5 out of 6 US ODS destruction facilities have this permit
- Update GWP factors to SAR

Environmental Review

- Incineration facility impacts
  - Will be required to meet MACT standards if limited to RCRA
  - ODS destruction studied by EPA and UNEP
- No new facilities likely
- Will be beneficial to reducing stratospheric ozone depletion

Livestock "Manure Digester" Project Description

- Covering a manure lagoon to capture and destroy methane that would have otherwise been emitted
- No additional proposed changes

Environmental Review

- Some project types can increase NO_x emissions

Urban Forestry Project Description

- Urban tree planting projects by municipalities, educational campuses, utilities, and partner organizations.

Urban Forestry
Propose Changes/Issues

- Document tree growth algorithms.
- Remove quantification and reporting of indirect GHG reductions.
- Remove language on prototype methods under development.
- Clarify definitions, language.

Environmental Review

- Impacts of emissions from project vehicles and equipment.

Questions?

Forest Project Protocol

Background

- Transition of latest CAR Forest Project Protocol – version 3.1
- Three forest project types
  - Reforestation
  - Improved Forest Management
  - Avoided Conversion

Forest Project Crediting

- Crediting of increased stored carbon or avoided emissions relative to baseline
  - Annual accounting
  - Only incremental emission reductions or removal enhancements credited
- Reductions must be maintained after crediting to ensure permanence
  - Current approach: 100 year monitoring obligation in addition to 100 year project crediting period

Staff Proposed Changes

- Proposed changes to align with compliance offset criteria and administrative framework
  - Baseline Modeling
  - Accounting boundaries & required carbon pools
  - Leakage risk factors
  - Crediting Periods

Additionality & Baseline Modeling

- *Issue*
  - AB32 additionality definition requires crediting only above what would otherwise occur
  - Goes beyond regulatory additionality
  - PDR requires conservative BAU modeling
- *Current approach*
  - Requires baseline modeling of all legal and regulatory constraints
  - Existing voluntary agreements excluded

Additionality & Baseline (cont'd)

- *Current Proposal*
  - Existing agreements must be included in baseline modeling
    - Sustainable Yield / Option A Plans
    - Habitat Conservation Plans & Safe Harbor Agreements

Accounting Boundaries Required Carbon Pools

- *Issue*
  - Some carbon pools currently optional
  - Creates accounting inconsistencies
  - Accounting methods for some optional pools may not be appropriate for compliance offset crediting
- *Current Proposal*
  - All carbon pools would be required or excluded
  - Based on availability and accuracy of accounting methods, significance of carbon pool, principle of conservative crediting

Accounting Boundaries Required Carbon Pools (cont'd)

- **Lying Dead Wood**
  - Currently an optional pool
  - Sound accounting method already in protocol
  - Significant carbon pool in many forest systems
  - *Current Proposal*
    - Would be required for all projects

Accounting Boundaries Required Carbon Pools (cont'd)

- **Understory, Litter and Soils**
  - Accounting methods less accurate, more expensive
  - Not expected to have significant impact on carbon accounting for most projects
  - *Current Proposal*
    - Would be excluded for most projects
    - Required only for projects with intensive site preparation or harvest methods
    - How to best quantify it?

Leakage

- *Issue*
  - Need to conservatively account for risk of increased emissions outside project boundary as a result of project activity
- *Current Approach*
  - Applies standard discount factors for significant leakage risks
- *Current Proposal*
  - Maintain current approach
  - Modify two factors to ensure conservative accounting
    - Reduced harvest
    - Avoided conversion

Crediting Periods

- *Current Approach*
  - 100 year crediting period
  - Inconsistent with proposed PDR approach of 10-30 year renewable crediting periods
- *Current Proposal*
  - 25 year renewal crediting periods
  - Projects move to latest quantification methodology as condition of renewal

Areas of Potential Changes

- Areas of potential changes to align with compliance offset criteria and administrative framework
- Several options under consideration
  - Ensuring permanence
  - Harvested wood products
  - Even-aged management

Permanence

- *Issue*
  - Carbon must remain out of atmosphere for very long time periods to offset emissions
  - Mechanism needed to replace carbon released through unintentional reversal (fire, disease)
- *Current approach*
  - Projects contribute credits to a **buffer-pool** used to compensate for reversals

Permanence (cont'd)

- *Options under consideration*
  - **Buffer-pool**
    - Reversal risk shared among forest projects
  - **Buyer liability approach**
    - Offsets cancelled when reversal occurs
    - Consistent with PDR enforcement language
  - **Project developer liability**
    - Manage risk individually – insurance, setting credits aside

Post-Project Permanence

- *Issue*
  - Need to ensure long-term permanence of reductions after project termination
  - ARB may not define 100 years as permanent
- *Current approach*
  - Must monitor and replace reversed carbon for 100 years post-project
  - Enforced by legal agreement (PIA)

Post-Project Permanence (cont'd)

- *Options under consideration*
  - Require post-project monitoring and verification of carbon stocks
    - How long?
  - Require **conservation easement** for projects on private lands
    - Project lands stay as forest in perpetuity
    - Include language on maintaining sustainable harvest levels
    - Protects against conversion and mitigates risk of avoidable reversals

Accounting Boundaries Wood Products

- *Issue*
  - ARB recognizes long-term storage of some carbon in wood products
    - What is appropriate for compliance offsets?
  - Only direct emission reductions within project boundaries eligible for crediting in PDR
    - Wood products leave project boundary
    - Cannot be accurately monitored & verified
    - Past data cannot accurately predict future decay
  - Potential for competing ownership claims

Wood Products (cont'd)

- *Current approach*
  - Baseline harvesting levels modeled
  - Crediting of increases and debiting of decreases in wood product carbon relative to baseline using national factors
- *Options under consideration*
  - Revision of wood product factors to ensure conservative crediting
    - How long must carbon stay in wood products?
  - Exclusion of harvested wood product accounting and crediting
    - Minor impact expected on project accounting

Even-aged Management

- *Issue*
  - Limits on even-aged management a controversial topic
  - Relates to natural forest management provisions, not carbon accounting
- *Current approach*
  - Based on CA Forest Practice Rules
  - Primarily affects out of state projects
  - Harvesting limited to 40 acres
  - Projects must comply with state laws and regulations

Even-aged Management (cont'd)

- *Options under consideration*
  - No revisions to current language
  - Align language on limits more closely with CA Forest Practice Rules
    - 20-30 acre limits in some cases based on harvest technique and slope
  - Restrict even-aged management where not a pre-existing practice
    - Addresses concern projects could switch to even-aged management

Environmental Review

- Numerous environmental benefits expected from forest projects
- Includes safeguards against managing for carbon at expense of other values
  - Must promote and maintain diversity of native species and age classes, no broadcast fertilization
- Some potential to decrease landscape and species diversity
- Even-aged management
  - Provides incentive to decrease harvest frequency
  - Restrictions based on CA Forest Practice Rules

Questions

Next Steps

- Workshop written comments
  - Due by July 9th
  - Email: Staff leads, or managers
- Mid Summer – Release of detailed changes
  - Comment Period
- Fall – Release of proposed protocols
- Fall – Board consideration

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GHG Offset Quantification Methodology Website
http://www.arb.ca.gov/cc/protocols/protocols.htm

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